

CLAIMS

What is claimed is:

1. Internal ventilation system of a rotating electric machine such as an automobile alternator, of the type that consists of, within a housing, a fixed-mounted stator in the housing and a rotary-mounted rotor in the stator; the ventilation system contains at least one ventilator integrated with the rotor which is capable of creating a cooling air stream within the housing, air intake axial orifices (20) arranged in the housing and cooling air discharge ports arranged in said housing in a ring with respect to the periphery of the ventilator and separated from each other by fins (24) stiffening the housing in the area of the radial ports (22), characterized in that the angle of inclination of the fins (24) in relation to the tangent perpendicular to the radial direction (R) is between 38° and 52°, and in that the radial ports (22) have an axial oriented section, called the axial orifice, that axially affects only the axial oriented ring and belongs to a cylindrical portion, and characterized in that the surface of the axial orifices represents at least 40% of the surface of the cylindrical section.
2. Ventilation system in accordance with claim 1, characterized in that the angle of inclination of the stiffening fins (24) is 45°.
3. Ventilation system in accordance with one of claims 1 to 2, characterized in that the angular distance between the air discharge radial fins (24) is equal to $F.360^\circ/N$ in which N is the number of notches present in the stator and F is a multiplier coefficient.
4. Ventilation system in accordance with the preceding claim, characterized in that the fins (24) are radially aligned with the grooves (32) of the stator.
5. Ventilation system in accordance with claim 3, characterized in that at least 70% of the fins (24) are radially aligned with the grooves (32) of the stator.
6. Ventilation system in accordance with claim 3, characterized in that the pitch of the fins (24) is a multiple of the pitch of the grooves (32) of the stator.

7. Ventilation system in accordance with claim 1, characterized in that the part of the cord length (L) of the blades (18) of a ventilator (16) overlapping the axial orifices (20) of the housing must be less than or equal to one third.
8. Rotating electrical machine such as an alternator, particularly for an automobile, characterized in that it includes a ventilation system in accordance with one of claims 1 to 7.